



## General

### Guideline Title

Screening for chlamydia and gonorrhea: U.S. Preventive Services Task Force recommendation statement.

### Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for chlamydia and gonorrhea: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2014 Dec 16;161(12):902-10. [40 references] [PubMed](#)

### Guideline Status

This is the current release of the guideline.

This guideline updates previous versions:

U.S. Preventive Services Task Force. Screening for chlamydial infection: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2007 Jul 17;147(2):128-34. [9 references]

U.S. Preventive Services Task Force (USPSTF). Screening for gonorrhea: recommendation statement. Rockville (MD): USPSTF; 2005. 11 p. [13 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Recommendations

### Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the Levels of Certainty regarding Net Benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

#### Summary of Recommendations and Evidence

The USPSTF recommends screening for chlamydia in sexually active females aged 24 years or younger and in older women who are at increased risk for infection. (B recommendation).

The USPSTF recommends screening for gonorrhea in sexually active females aged 24 years or younger and in older women who are at increased risk for infection. (B recommendation).

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for chlamydia and gonorrhea in men. (I statement).

## Clinical Considerations

### Patient Population Under Consideration

This recommendation applies to all sexually active adolescents and adults, including pregnant women.

### Assessment of Risk

Age is a strong predictor of risk for chlamydial and gonococcal infections, with the highest infection rates occurring in women aged 20 to 24 years, followed by females aged 15 to 19 years. Chlamydial infections are 10 times more prevalent than gonococcal infections in young adult women. Among men, infection rates are highest in those aged 20 to 24 years.

Other risk factors for infection include having a new sex partner, more than 1 sex partner, a sex partner with concurrent partners, or a sex partner who has a sexually transmitted infection (STI); inconsistent condom use among persons who are not in mutually monogamous relationships; previous or coexisting STI; and exchanging sex for money or drugs. Prevalence is also higher among incarcerated populations, military recruits, and patients receiving care at public STI clinics. There are also racial and ethnic differences in STI prevalence. In 2012, black and Hispanic persons had higher rates of infection than white persons. Clinicians should consider the communities they serve and may want to consult local public health authorities for guidance on identifying groups that are at increased risk. Gonococcal infection, in particular, is concentrated in specific geographic locations and communities.

### Screening Tests

*Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections should be diagnosed by using nucleic acid amplification tests (NAATs). NAATs have high sensitivity and specificity and are cleared by the U.S. Food and Drug Administration (FDA) for use on urogenital sites, including male and female urine, as well as clinician collected endocervical, vaginal, and male urethral specimens. Most NAATs that are cleared for use on vaginal swabs are also cleared for use on self-collected vaginal specimens in clinical settings. Rectal and pharyngeal swabs can be collected from persons who engage in receptive anal intercourse and oral sex, although these collection sites have not been cleared by the FDA. Urine testing with NAATs is at least as sensitive as testing with endocervical specimens, clinician- or self-collected vaginal specimens, or urethral specimens that are self-collected in clinical settings. The same specimen can be used to test for chlamydia and gonorrhea.

### Screening Intervals

In the absence of studies on screening intervals, a reasonable approach would be to screen patients whose sexual history reveals new or persistent risk factors since the last negative test result.

### Treatment and Interventions

Chlamydial and gonococcal infections respond to treatment with antibiotics. Guidelines from the Centers for Disease Control and Prevention (CDC) on treatment of sexually transmitted diseases (STDs) and expedited partner therapy are available at [www.cdc.gov/std/treatment/2010/default.htm](http://www.cdc.gov/std/treatment/2010/default.htm)  and [www.cdc.gov/std/ept/default.htm](http://www.cdc.gov/std/ept/default.htm) , respectively.

Posttest counseling is an integral part of management of patients with a newly diagnosed STI. The USPSTF recommends offering or referral to high-intensity behavioral counseling for patients with current or recent STIs (see the National Guideline Clearinghouse [NGC] summary of the USPSTF guideline [Behavioral counseling interventions to prevent sexually transmitted infections: U.S. Preventive Services Task Force recommendation statement](#)). Posttest counseling can also serve as an educational opportunity for patients who present with STI concerns but test negative for infection. It should address safe sex practices that can reduce disease transmission or reinfection; motivational interviewing strategies may also promote risk-reducing behaviors.

To maximize adherence, the CDC recommends that drug treatment be dispensed on site. The CDC recommends that all sex partners of infected patients from the preceding 60 days be evaluated, tested, and treated for infection. It also recommends that infected patients be instructed to abstain from sexual intercourse until after they and their sex partners have completed treatment and no longer have symptoms. For a sex partner who cannot be linked to care, the CDC suggests that clinicians consider expedited partner therapy, which allows for the delivery of a drug or drug prescription to the partner by the patient, a disease investigation specialist, or a pharmacy. Because of a high likelihood of reinfection, the CDC also recommends retesting all patients diagnosed with chlamydial or gonococcal infection 3 months after treatment, regardless of whether they believe their partners have been treated.

In pregnant women, a test of cure to document eradication of chlamydial infection 3 weeks after treatment is recommended. Pregnant women diagnosed with a chlamydial or gonococcal infection in the first trimester should be retested 3 months after treatment. Gonococcal neonatal

ophthalmia, which can be transmitted from an untreated woman to her newborn, may be prevented with routine topical prophylaxis at delivery. However, prevention of chlamydial neonatal pneumonia and ophthalmia requires prenatal detection and treatment.

## Suggestions for Practice Regarding the I Statement

### *Potential Preventable Burden*

Chlamydial and gonococcal infections are often asymptomatic in men but may result in urethritis, epididymitis, and proctitis. Uncommon complications include reactive arthritis (chlamydia) and disseminated gonococcal infection. Infections at extragenital sites (such as the pharynx and rectum) are typically asymptomatic. Chlamydial and gonococcal infections may facilitate human immunodeficiency virus (HIV) transmission in men and women. Median prevalence rates among men who have sex with men who were tested in STD Surveillance Network clinics in 2012 were 16% for gonorrhea and 12% for chlamydia.

### *Potential Harms*

Potential harms of screening for chlamydia and gonorrhea include false-positive or false-negative results as well as labeling and anxiety associated with positive results.

### *Costs*

According to the CDC, STIs in the United States are associated with an annual cost of almost \$16 billion. Among nonviral STIs, chlamydia is the most costly, with total associated costs of \$516.7 million (range, \$258.3 to \$775.0 million). Gonococcal infections are associated with total costs of \$162.1 million (range, \$81.1 to \$243.2 million).

In 2008, estimated direct lifetime costs (in 2010 U.S. dollars) per case of chlamydial infection were \$30 (range, \$15 to \$45) in men and \$364 (range, \$182 to \$546) in women. Similarly, gonococcal infections were associated with direct costs of \$79 (range, \$40 to \$119) in men and \$354 (range, \$182 to \$546) in women.

### *Current Practice*

A review of health care claims of 4296 male and female patients presenting for general medical or gynecologic examinations from 2000 to 2003 found that a large proportion of those with high-risk sexual behaviors did not receive STI or HIV testing during their visit. According to a review of diagnostic billing codes for patients with high risk sexual behaviors, men were significantly less likely than women to be tested for chlamydia (20.7% vs. 56.9%) and gonorrhea (20.7% vs. 50.9%), although they were more likely to be tested for HIV (79.3% vs. 38.8%) and syphilis (39.1% vs. 27.6%).

### *Other Approaches to Prevention*

The USPSTF has issued recommendations on screening for other STIs, including hepatitis B, genital herpes, HIV, and syphilis. The USPSTF has also issued recommendations on behavioral counseling for all sexually active adolescents and for adults who are at increased risk for STIs. These recommendations are available at [www.uspreventiveservicestaskforce.org](http://www.uspreventiveservicestaskforce.org) [redacted].

### *Useful Resources*

The CDC provides more information about STDs, including chlamydia and gonorrhea, at <http://www.cdc.gov/std/default.htm> [redacted]. Its recommendations for STD prevention include clinical prevention guidance (available at [www.cdc.gov/std/treatment/2010/clinical.htm](http://www.cdc.gov/std/treatment/2010/clinical.htm) [redacted]) and patient prevention information (available at [www.cdc.gov/std/prevention/default.htm](http://www.cdc.gov/std/prevention/default.htm) [redacted]). CDC has also issued guidance for clinicians on how to take a sexual history (available at [www.cdc.gov/std/treatment/SexualHistory.pdf](http://www.cdc.gov/std/treatment/SexualHistory.pdf) [redacted]).

The Community Preventive Services Task Force has issued several recommendations on the prevention of HIV/acquired immune deficiency syndrome (AIDS), other STIs, and teen pregnancy. The Community Guide discusses interventions that have been efficacious in school settings and for men who have sex with men (available at [www.thecommunityguide.org/hiv/index.html](http://www.thecommunityguide.org/hiv/index.html) [redacted]).

Canadian guidelines on STIs are available at [www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-lcdcits/index-eng.php](http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-lcdcits/index-eng.php) [redacted].

### Definitions:

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer/provide this service only if there are other considerations in support of the offering/providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of USPSTF Recommendation Statement (see the "Major Recommendations" field). If offered, patients should understand the uncertainty about the balance of benefits and harms.

#### USPSTF Levels of Certainty Regarding Net Benefit

Definition: The U.S. Preventive Services Task Force defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	<p>The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as:</p> <ul style="list-style-type: none"> <li>• The number, size, or quality of individual studies</li> <li>• Inconsistency of findings across individual studies</li> <li>• Limited generalizability of findings to routine primary care practice; or</li> <li>• Lack of coherence in the chain of evidence</li> </ul> <p>As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.</p>
Low	<p>The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:</p> <ul style="list-style-type: none"> <li>• The limited number or size of studies</li> <li>• Important flaws in study design or methods</li> <li>• Inconsistency of findings across individual studies</li> <li>• Gaps in the chain of evidence</li> <li>• Findings not generalizable to routine primary care practice; or</li> <li>• A lack of information on important health outcomes</li> </ul> <p>More information may allow an estimation of effects on health outcomes.</p>

#### Clinical Algorithm(s)

None provided

# Scope

## Disease/Condition(s)

Chlamydia and gonorrhea infections

## Guideline Category

Prevention

Screening

## Clinical Specialty

Family Practice

Internal Medicine

Obstetrics and Gynecology

Pediatrics

Preventive Medicine

## Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Nurses

Physician Assistants

Physicians

Public Health Departments

## Guideline Objective(s)

To summarize the current U.S. Preventive Services Task Force (USPSTF) recommendations and supporting scientific evidence on screening for chlamydia and gonorrhea

## Target Population

All sexually active adolescents and adults, including pregnant women

## Interventions and Practices Considered

Screening for chlamydia and gonorrhea

# Major Outcomes Considered

## For Men and Nonpregnant Women, Including Adolescents

- Key Question 1: How effective is screening for gonorrhea and chlamydia in reducing complications of infection and transmission or acquisition of disease in asymptomatic, sexually active men and nonpregnant women, including adolescents?
- Key Question 2: How effective are different screening strategies in identifying persons with gonorrhea and chlamydia?
- Key Question 3: How accurate are screening tests in detecting gonorrhea and chlamydia?
- Key Question 4: What are the harms of screening for gonorrhea and chlamydia?

## For Pregnant Women

- Key Question 1: How effective is screening for gonorrhea and chlamydia in reducing complications of infection and transmission or acquisition of disease in asymptomatic pregnant women?
- Key Question 2: What are the harms of screening for gonorrhea and chlamydia in asymptomatic pregnant women?

# Methodology

## Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

## Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Pacific Northwest Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

### Data Sources and Searches

The reviewers searched Ovid MEDLINE (1 January 2004 to 13 June 2014), the Cochrane Central Register of Controlled Trials (May 2014), the Cochrane Database of Systematic Reviews (May 2014), the Health Technology Assessment Database (May 2014), the Database of Abstracts of Reviews of Effects (May 2014), and ClinicalTrials.gov (May 2014) and reviewed reference lists for additional citations. Search terms are provided in Supplement 3 of the systematic evidence review.

### Study Selection

Abstracts were selected for full-text review if they included asymptomatic, sexually active men and women, including pregnant women and adolescents; were relevant to a key question; and met additional prespecified inclusion criteria for each key question. Although this update was intended to evaluate studies published since the previous USPSTF reviews, the scope, key questions, and inclusion criteria differ across reviews, resulting in the inclusion of older studies that have not been previously reviewed. The reviewers included only English-language articles and excluded studies that were published as abstracts only or did not report original data. The selection of studies is summarized in a literature flow diagram (see Supplement 4 of the systematic evidence review). Two reviewers independently evaluated each study to determine inclusion eligibility.

Only randomized, controlled trials (RCTs) and controlled observational studies were included to evaluate the effectiveness of screening, whereas uncontrolled observational studies were also included to determine adverse effects. Studies of screening strategies were included if they adequately described the study population and comparison groups, features of the screening program, and outcome measures. Inclusion criteria were less restrictive for effectiveness studies than diagnostic accuracy studies because the main comparison concerned outcomes related to the overall approach of screening compared with nonscreening rather than the characteristics of the individual tests.

Studies of the accuracy of diagnostic tests were included if they evaluated screening tests in asymptomatic participants using technologies and methods that have been cleared by the U.S. Food and Drug Administration (FDA) and are available for clinical practice in the United States.

These inclusion criteria reflect the scope of the USPSTF recommendations about technologies and medications. On the basis of these criteria, rectal, pharyngeal, and self-collected vaginal specimens obtained in nonclinical settings and point-of-care or in-house tests were excluded. Tests that were previously cleared and subsequently removed from the U.S. market (such as the ligase chain reaction test) were also excluded. Included studies used credible reference standards, adequately described the study population, defined positive test results, and reported performance characteristics of tests (such as sensitivity and specificity) or provided data to calculate them.

## Number of Source Documents

Asymptomatic, Sexually Active Men and Nonpregnant Women, Including Adolescents

- Key Question 1: 1 study
- Key Question 2: 1 study
- Key Question 3: 10 studies
- Key Question 4: 10 studies

Asymptomatic Pregnant Women

- Key Question 1: 0 studies
- Key Question 2: 0 studies

## Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

Two investigators independently rated the quality of studies (good, fair, or poor) and resolved discrepancies by consensus. See the "Description of the Methods Used to Analyze the Evidence" field for further information.

## Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Pacific Northwest Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Abstraction and Quality Rating

A single investigator abstracted details about study design, patient population, comparison groups, setting, screening method, analysis, follow-up, and results. A second investigator reviewed data abstraction for accuracy. By using prespecified criteria for randomized controlled trials (RCTs), cohort, and diagnostic accuracy studies developed by the USPSTF, 2 investigators independently rated the quality of studies (good, fair, or poor) and resolved discrepancies by consensus.

Data Synthesis and Analysis

Two independent reviewers assessed the internal validity (quality) of the body of evidence for the new studies for each key question using methods developed by the USPSTF, on the basis of the number, quality, and size of studies; consistency of results among studies; and directness of evidence. Statistical meta-analysis was not done because of methodological limitations of the studies and heterogeneity in study designs, interventions, populations, and other factors. Studies included in previous reviews were reviewed for consistency with current results; however, lack of studies and differences in scope, key questions, and inclusion criteria limited aggregate synthesis with the updated evidence.



# Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see Table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

Table 1. U.S. Preventive Services Task Force Recommendation Grid\*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low	Insufficient			

\*A, B, C, D, and I (*Insufficient*) represent the letter grades of recommendation or statement of insufficient evidence assigned by the USPSTF after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the USPSTF seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized, controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the USPSTF considers indirect evidence. To guide its selection of indirect evidence, the USPSTF constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?
6. Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose-response effects, fit within a biologic model)?

The next step in the USPSTF process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the USPSTF's overall assessment of evidence was described as good, fair, or poor. The USPSTF realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term certainty will now be used to describe the USPSTF's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important



to note that the USPSTF makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The USPSTF must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The USPSTF considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the USPSTF assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The USPSTF would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of the Recommendations" field). The USPSTF would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see "Availability of Companion Documents" field) summarizes the current terminology used by the USPSTF to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF, Guirguis-Blake J, LeFevre M, Harris R, Petitti D; U.S. Preventive Services Task Force. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. *Ann Intern Med.* 2007;147(12):871-875. [5 references].

## I Statements

For I statements, the USPSTF has a new plan to commission its Evidence-based Practice Centers to collect information in 4 domains pertinent to clinical decisions about prevention and to report this information routinely. This plan is described in the paper: Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med.* 2009;150:199-205. [www.annals.org](http://www.annals.org)

The first domain is potential preventable burden of suffering from the condition. When evidence is insufficient, provision of an intervention designed to prevent a serious condition (such as dementia) might be viewed more favorably than provision of a service designed to prevent a condition that does not cause as much suffering (such as rash). The USPSTF recognized that "burden of suffering" is subjective and involves judgment. In clinical settings, it should be informed by patient values and concerns.

The second domain is potential harm of the intervention. When evidence is insufficient, an intervention with a large potential for harm (such as major surgery) might be viewed less favorably than an intervention with a small potential for harm (such as advice to watch less television). The USPSTF again acknowledges the subjective nature and the difficulty of assessing potential harms: for example, how bad is a "mild" stroke?

The third domain is cost—not just monetary cost, but opportunity cost, in particular the amount of time a provider spends to provide the service, the amount of time the patient spends to partake of it, and the benefits that might derive from alternative uses of the time or money for patients, clinicians, or systems. Consideration of clinician time is especially important for preventive services with only insufficient evidence because providing them could "crowd out" provision of preventive services with proven value, services for conditions that require immediate action, or services more desired by the patient. For example, a decision to routinely inspect the skin could take up the time available to discuss smoking cessation, or to address an acute problem or a minor injury that the patient considers important.

The fourth domain is current practice. This domain was chosen because it is important to clinicians for at least 2 reasons. Clinicians justifiably fear that not doing something that is done on a widespread basis in the community may lead to litigation. More important, addressing patient expectations is a crucial part of the clinician–patient relationship in terms of building trust and developing a collaborative therapeutic relationship. The consequences of not providing a service that is neither widely available nor widely used are less serious than not providing a service accepted by the medical profession and thus expected by patients. Furthermore, ingrained care practices are difficult to change, and efforts should preferentially be directed to changing those practices for which the evidence to support change is compelling.

Although the reviewers did not explicitly recognize it when these domains were chosen, the domains all involve consideration of the potential consequences—for patients, clinicians, and systems—of providing or not providing a service. Others writing about medical decision making in the face of uncertainty have suggested that the consequences of action or inaction should play a prominent role in decisions.

# Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer/provide this service only if there are other considerations in support of the offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of USPSTF Recommendation Statement (see "Major Recommendations" field). If offered, patients should understand the uncertainty about the balance of benefits and harms.

## USPSTF Levels of Certainty Regarding Net Benefit

Definition: The U.S. Preventive Services Task Force defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	<p>The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as:</p> <ul style="list-style-type: none"><li>• The number, size, or quality of individual studies</li><li>• Inconsistency of findings across individual studies</li><li>• Limited generalizability of findings to routine primary care practice; or</li><li>• Lack of coherence in the chain of evidence</li></ul> <p>As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.</p>
Low	<p>The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:</p> <ul style="list-style-type: none"><li>• The limited number or size of studies</li><li>• Important flaws in study design or methods</li><li>• Inconsistency of findings across individual studies</li><li>• Gaps in the chain of evidence</li><li>• Findings not generalizable to routine primary care practice; or</li><li>• A lack of information on important health outcomes</li></ul> <p>More information may allow an estimation of effects on health outcomes.</p>

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

## Description of Method of Guideline Validation

Peer Review. Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center and the Agency for Healthcare Research and Quality send a draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. The evidence review is also posted for public comment on the USPSTF Web site for 4 weeks. After assembling these external review and public comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the USPSTF Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment. A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from 29 April to 26 May 2014. The USPSTF considered all comments received during this period. In response to comments, the USPSTF separated its recommendations on screening for chlamydia and gonorrhea, in recognition of differences in the diseases and the respective evidence. It clarified that the studies it reviewed on the direct effects of screening for chlamydia, including 1 new good-quality RCT, showed mixed results. This led to the change in grade for screening for chlamydia, which is now based on "moderate" certainty of a moderate net benefit rather than "high certainty" of a substantial net benefit. The USPSTF also clarified some of the differences between chlamydial and gonococcal infections in men and women. The revised recommendation statement also includes clarifications on risk assessment, screening tests, screening intervals, and treatments.

Comparison with Guidelines from Other Groups. Recommendations for screening from the following groups were discussed: the Centers for Disease Control and Prevention (CDC), the American Congress of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), and the Public Health Agency of Canada.

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Benefits of Early Detection and Intervention or Treatment

The U.S. Preventive Services Task Force (USPSTF) found adequate direct evidence that screening reduces complications of chlamydial infection in women who are at increased risk, with a moderate magnitude of benefit.

The USPSTF found adequate evidence that screening for gonorrhea results in a moderate magnitude of benefit based on the large proportion of cases that are asymptomatic, the effectiveness of antibiotic treatment to reduce infections, and the high morbidity associated with untreated infections.

The USPSTF found inadequate evidence that screening for chlamydia and gonorrhea reduces complications of infection and transmission or acquisition of either disease or human immunodeficiency virus (HIV) in men. The magnitude of benefit is unknown.

## Potential Harms

### Harms of Early Detection and Intervention of Treatment

The U.S. Preventive Services Task Force (USPSTF) found adequate evidence that the harms of screening for chlamydia and gonorrhea are small to none.

## Qualifying Statements

### Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

## Implementation of the Guideline

### Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its [Web site](#) . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size Guide to Clinical Preventive Services.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major

challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

## Implementation Tools

Foreign Language Translations

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Staying Healthy

### IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for chlamydia and gonorrhea: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2014 Dec 16;161(12):902-10. [40 references] [PubMed](#)

### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

1996 (revised 2014 Dec 16)

### Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

## Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services or its agencies.

## Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF.

## Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

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*\*Members of the USPSTF at the time this recommendation was finalized. For a list of current Task Force members, go to [www.uspreventiveservicestaskforce.org/Page/Name/our-members](http://www.uspreventiveservicestaskforce.org/Page/Name/our-members) .*

## Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

*Potential Conflicts of Interest*: Dr. Gillman reports royalties from UpToDate and Cambridge University Press outside the submitted work. Authors not named here have disclosed no conflicts of interest. Authors followed the policy regarding conflicts of interest described at [www.uspreventiveservicestaskforce.org/Page/Name/methods-and-processes](http://www.uspreventiveservicestaskforce.org/Page/Name/methods-and-processes) . Disclosures can also be viewed at [www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M14-1981](http://www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M14-1981) .

## Guideline Status

This is the current release of the guideline.

This guideline updates previous versions:

U.S. Preventive Services Task Force. Screening for chlamydial infection: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2007 Jul 17;147(2):128-34. [9 references]

U.S. Preventive Services Task Force (USPSTF). Screening for gonorrhea: recommendation statement. Rockville (MD): USPSTF; 2005. 11 p.



[13 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Guideline Availability

Electronic copies: Available from the [Annals of Internal Medicine Web site](#) .

## Availability of Companion Documents

The following are available:

Evidence Reviews:

- Zakher B, Cantor AG, Pappas M, Daeges M, Nelson HD. Screening for gonorrhea and chlamydia: a systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med*. 2014 Dec 16;161(12):884-893.
- Nelson HD, Zakher B, Cantor A, Daeges M, Pappas M. Screening for gonorrhea and chlamydia: systematic review to update the U.S. Preventive Services Task Force recommendations. Evidence Synthesis No. 115. AHRQ Publication No. 13-05184-EF-1. Rockville (MD): Agency for Healthcare Research and Quality; 2014 Sep. 118 p.

Electronic copies: Available from the [U.S. Preventive Services Task Force \(USPSTF\) Web site](#) .

Background Articles:

- Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. *Ann Intern Med* 2007;147:123-127.
- Guirgis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. *Ann Intern Med* 2007;147:117-122.
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. *Ann Intern Med* 2007;147:871-875.
- Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med*. 2009;150:199-205.

Electronic copies: Available from the [USPSTF Web site](#) .

The following are also available:

- Screening for chlamydia and gonorrhea. Clinical summary of the U.S. Preventive Services Task Force (USPSTF) recommendation. 2014. 1 p. Electronic copies: Available from the [USPSTF Web site](#) .
- The guide to clinical preventive services, 2014. Recommendations of the U.S. Preventive Services Task Force. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2014. 144 p. Electronic copies: Available from the [AHRQ Web site](#) . See the related QualityTool summary on the [Health Care Innovations Exchange Web site](#) .
- A continuing medical education (CME) activity is available from the [Annals of Internal Medicine Web site](#) .

The [Electronic Preventive Services Selector](#)  (ePSS) is an application designed to provide primary care clinicians and health care teams timely decision support regarding appropriate screening, counseling, and preventive services for their patients. It is based on the current, evidence-based recommendations of the USPSTF and can be searched by specific patient characteristics, such as age, sex, and selected behavioral risk factors.

## Patient Resources

The following are available:

- Screening for chlamydia and gonorrhea. Understanding task force recommendations. Rockville (MD): U.S. Preventive Services Task Force. Consumer fact sheet. 2014 Sep. 4 p. Electronic copies: Available from the [U.S. Preventive Services Task Force \(USPSTF\) Web site](#) .



- Screening for chlamydia and gonorrhea: U.S. Preventive Services Task Force recommendation statement. Summaries for patients. Ann Intern Med. 2014 Dec 16;161(12):I-30. Electronic copies: Available from the [Annals of Internal Medicine Web site](#) .
- Women: stay healthy at any age. 2014 update. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 14-IP007-A. 2014 Mar. 5 p. Electronic copies: Available in [English](#)  and [Spanish](#)  from the Agency for Healthcare Research and Quality (AHRQ) Web site.
- Men: stay healthy at any age. 2014 update. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 14-IP006-A. 2014 Mar. 5 p. Electronic copies: Available in [English](#)  and [Spanish](#)  from the AHRQ Web site.
- Women: stay healthy at 50+. 2014 update. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 14-IP002-A. 2014 Mar. 5 p. Electronic copies: Available in [English](#)  and [Spanish](#)  from the AHRQ Web site.
- Men: stay healthy at 50+. 2014 update. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 14-IP009-A. 2014 Mar. 5 p. Electronic copies: Available in [English](#)  and [Spanish](#)  from the AHRQ Web site.

Print copies: Available in English and Spanish from the AHRQ Publications Clearinghouse. For more information, go to <http://www.ahrq.gov/research/publications/index.html>  or call 1-800-358-9295  (U.S. only).

Myhealthfinder is a tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at [www.healthfinder.gov](http://www.healthfinder.gov) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

## NGC Status

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